



#8

# SEQUENCE LISTING

<110> Introgene BV  
Havenga, Menzo  
Vogels, Ronald

<120> Infection with chimaeric adenoviruses of cells negative for the  
adenovirus serotype 5 Cocksacki adenovirus receptor (CAR)

<130> 2183-5226US

<140> 10/040,949

<141> 2002-09-09

<150> WO01/04334

<151> 2000-07-07

<150> EP 99202234.3

<151> 1999-07-08

<150> US 60/142,557

<151> 2000-07-07

<160> 58

<170> PatentIn version 3.1

<210> 1

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligo linker

<220>

<221> misc\_feature

<222> (1)..(23)

<223> linker contains a PacI restriction site at positions 8-15

<400> 1

aattgtctta attaaccgct taa

23

<210> 2

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligonucleotide

<220>

<221> misc\_feature

<222> (1)..(19)

<223> oligonucleotide contains a PacI restriction site at positions 8-1

5

<400> 2  
aattgtctta attaaccgc 19

<210> 3  
<211> 19  
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<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(19)  
<223> oligonucleotide contains a PacI restriction site at positions 9-16

<400> 3  
aattgcggtt aattaagac 19

<210> 4  
<211> 47  
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<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> misc\_feature  
<222> (1)..(47)  
<223> primer LTR-1

<400> 4  
ctgtacgtac cagtgcactg gcctaggcat ggaaaaatac ataactg 47

<210> 5  
<211> 64  
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<213> Artificial Sequence

<220>  
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<220>  
<221> misc\_feature  
<222> (1)..(64)  
<223> primer LRT-2

<400> 5  
gcggatcctt cgaaccatgg taagcttggg accgctagcg ttaaccgggc gactcagtca 60  
atcg 64

<210> 6  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
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<220>  
<221> misc\_feature  
<222> (1)..(28)  
<223> primer HSA1

<400> 6  
gcgccacat gggcagagcg atggtggc 28

<210> 7  
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<212> DNA  
<213> Artificial Sequence

<220>  
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<220>  
<221> misc\_feature  
<222> (1)..(50)  
<223> primer HSA2

<400> 7  
gttagatcta agcttgctga catcgatcta ctaacagtag agatgtagaa 50

<210> 8  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> misc\_feature  
<222> (1)..(21)  
<223> primer 1

<400> 8  
gggtattagg ccaaaggcgc a 21

<210> 9  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> misc\_feature  
<222> (1)..(33)  
<223> primer 2

<400> 9  
gatcccatgg aagcttgggt ggcgacccca gcg 33

<210> 10  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> misc\_feature  
<222> (1)..(36)  
<223> primer 3

<400> 10  
gatcccatgg ggatccttta ctaagttaca aagcta 36

<210> 11  
<211> 19  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> misc\_feature  
<222> (1)..(19)  
<223> primer 4

<400> 11  
gtcgctgtag ttggactgg 19

<210> 12  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> primer\_bind  
<222> (1)..(42)  
<223> primer NY-up

<400> 12  
cgacatatgt agatgcatta gtttgtgta tgtttcaacg tg

42

<210> 13  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> primer\_bind  
<222> (1)..(19)  
<223> primer NY-down

<400> 13  
ggagaccact gccatgttg

19

<210> 14  
<211> 10  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligo linker

<400> 14  
ttaagtcgac

10

<210> 15  
<211> 32  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> primer\_bind  
<222> (1)..(32)  
<223> LacZ primer 1

<400> 15  
ggggtggcca gggtagctct aggcttttgc aa

32

<210> 16  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> primer\_bind  
<222> (1)..(29)  
<223> LacZ primer 2

<400> 16  
gggggatcc ataaacaagt tcagaatcc

29

<210> 17  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(35)  
<223> tail oligonucleotide

<220>  
<221> misc\_feature  
<222> (11)..(16)  
<223> contains a NdeI restriction site at positions 11-16

<400> 17  
cccgtgtatc catatgatgc agacaacgac cgacc

35

<210> 18  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(27)  
<223> tail oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(27)  
<223> tail oligonucleotide

<220>  
<221> misc\_feature  
<222> (11)..(16)  
<223> contains a NdeI restriction site at positions 11-16

<400> 18  
cccgtctacc catatggcta cgcgcg

27

<210> 19  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(27)  
<223> tail oligonucleotide

<220>  
<221> misc\_feature  
<222> (11)..(16)  
<223> contains a NdeI restriction site at positions 11-16

<220>  
<221> misc\_feature  
<222> (3)..(3)  
<223> 'k' at position 3 indicates a nucleotide that may be either g or  
t

<220>  
<221> misc\_feature  
<222> (6)..(6)  
<223> 's' at position 6 indicates a nucleotide that may be either g or  
c

<400> 19  
cckgtstacc catatgaaga tgaaagc

27

<210> 20  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(31)  
<223> tail oligonucleotide

<220>  
<221> misc\_feature  
<222> (23)..(23)  
<223> 'y' at position 23 indicates a nucleotide that may be either t or  
c

<220>  
<221> misc\_feature  
<222> (11)..(16)  
<223> contains a NdeI restriction site at positions 11-16

<400> 20  
cccgtctacc catatgacac ctyctcaact c

31

<210> 21  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(36)  
<223> tail oligonucleotide

<220>  
<221> misc\_feature  
<222> (11)..(16)  
<223> contains a NdeI restriction site at positions 11-16



<400> 21  
cccgtttacc catatgaccc atttgacaca tcagac

36

<210> 22  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(30)  
<223> knob oligonucleotide

<220>  
<221> misc\_feature  
<222> (4)..(9)  
<223> contains a NsiI restriction site at positions 4-9

<400> 22  
ccgatgcatt tattgttggg ctatatagga

30

<210> 23  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(30)  
<223> knob oligonucleotide

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> 'y' at position 11 indicates a nucleotide that may be either t or  
c

<220>  
<221> misc\_feature  
<222> (22)..(22)  
<223> 'r' at position 22 indicates a nucleotide that may be either g or  
a

<220>

<221> misc\_feature  
<222> (4)..(9)  
<223> contains a NsiI restriction site at positions 4-9

<400> 23  
ccgatgcatt yattcttggg cratatagga

30

<210> 24  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(36)  
<223> knob oligonucleotide

<220>  
<221> misc\_feature  
<222> (28)..(28)  
<223> 'w' at position 28 indicates a nucleotide that may be either a or  
t

<220>  
<221> misc\_feature  
<222> (4)..(9)  
<223> contains a NsiI restriction site at positions 4-9

<400> 24  
ccgatgcatt tattcttggg raatgtawga aaagga

36

<210> 25  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(30)  
<223> knob oligonucleotide

<220>  
<221> misc\_feature  
<222> (4)..(9)

<223> contains a NsiI restriction site at positions 4-9

<400> 25  
ccgatgcatt cagtcacctt ctctgatata

30

<210> 26  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(30)  
<223> knob oligonucleotide

<220>  
<221> misc\_feature  
<222> (4)..(9)  
<223> contains a NsiI restriction site at positions 4-9

<400> 26  
ccgatgcatt tattgttcag ttatgtagca

30

<210> 27  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(30)  
<223> knob oligonucleotide

<220>  
<221> misc\_feature  
<222> (4)..(9)  
<223> contains a NsiI restriction site at positions 4-9

<400> 27  
gccatgcatt tattgttctg ttacataaga

30

<210> 28  
<211> 37

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(37)  
<223> knob oligonucleotide

<220>  
<221> misc\_feature  
<222> (4)..(11)  
<223> contains a PacI restriction site at positions 4-11

<400> 28  
ccggttaatta agcccttatt gttctgttac ataagaa

37

<210> 29  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(30)  
<223> knob oligonucleotide

<220>  
<221> misc\_feature  
<222> (19)..(19)  
<223> 'y' at position 19 indicates a nucleotide that may be either t or  
c

<220>  
<221> misc\_feature  
<222> (23)..(23)  
<223> 'w' at position 23 indicates a nucleotide that may be either a or  
t

<220>  
<221> misc\_feature  
<222> (4)..(9)  
<223> contains a NsiI restriction site at positions 4-9

<400> 29

ccgatgcatt cagtcatcyt ctwtaatata

30

<210> 30

<211> 377

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(377)

<223> Serotype 8 fiber protein

<400> 30

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asn Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Thr Ile Asn Asn Gln Asn Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Leu Gln Glu Glu Thr Gly Lys Leu Thr Val Asn  
85 90 95

Thr Glu Pro Pro Leu His Leu Thr Asn Asn Lys Leu Gly Ile Ala Leu  
100 105 110

Asp Ala Pro Phe Asp Val Ile Asp Asn Lys Leu Thr Leu Leu Ala Gly  
115 120 125

His Gly Leu Ser Ile Ile Thr Lys Glu Thr Ser Thr Leu Pro Gly Leu  
130 135 140

Val Asn Thr Leu Val Val Leu Thr Gly Lys Gly Ile Gly Thr Asp Leu  
145 150 155 160

Ser Asn Asn Gly Gly Asn Ile Cys Val Arg Val Gly Glu Gly Gly Gly



<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(377)  
<223> Serotype 9 fiber protein

<400> 31

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Ala Ile Val Asn Gly Asn Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Leu Gln Asp Gly Thr Gly Lys Leu Thr Val Asn  
85 90 95

Ala Asp Pro Pro Leu Gln Leu Thr Asn Asn Lys Leu Gly Ile Ala Leu  
100 105 110

Asp Ala Pro Phe Asp Val Ile Asp Asn Lys Leu Thr Leu Leu Ala Gly  
115 120 125

His Gly Leu Ser Ile Ile Thr Lys Glu Thr Ser Thr Leu Pro Gly Leu  
130 135 140

Ile Asn Thr Leu Val Val Leu Thr Gly Lys Gly Ile Gly Thr Glu Ser  
145 150 155 160

Thr Asp Asn Gly Gly Ser Val Cys Val Arg Val Gly Glu Gly Gly Gly  
165 170 175

Leu Ser Phe Asn Asn Asp Gly Asp Leu Val Ala Phe Asn Lys Lys Glu  
180 185 190

Asp Lys Arg Thr Leu Trp Thr Thr Pro Asp Thr Ser Pro Asn Cys Lys  
195 200 205

Ile Asp Gln Asp Lys Asp Ser Lys Leu Thr Leu Val Leu Thr Lys Cys  
210 215 220

Gly Ser Gln Ile Leu Ala Asn Val Ser Leu Ile Val Val Ala Gly Lys  
225 230 235 240

Tyr Lys Ile Ile Asn Asn Asn Thr Gln Pro Ala Leu Lys Gly Phe Thr  
245 250 255

Ile Lys Leu Leu Phe Asp Glu Asn Gly Val Leu Met Glu Ser Ser Asn  
260 265 270

Leu Gly Lys Ser Tyr Trp Asn Phe Arg Asn Glu Asn Ser Ile Met Ser  
275 280 285

Thr Ala Tyr Glu Lys Ala Ile Gly Phe Met Pro Asn Leu Val Ala Tyr  
290 295 300

Pro Lys Pro Thr Ala Gly Ser Lys Lys Tyr Ala Arg Asp Ile Val Tyr  
305 310 315 320

Gly Asn Ile Tyr Leu Gly Gly Lys Pro Asp Gln Pro Val Thr Ile Lys  
325 330 335

Thr Thr Phe Asn Gln Glu Thr Gly Cys Glu Tyr Ser Ile Thr Phe Asp  
340 345 350

Phe Ser Trp Ala Lys Thr Tyr Val Asn Val Glu Phe Glu Thr Thr Ser  
355 360 365

Phe Thr Phe Ser Tyr Ile Ala Gln Glu  
370 375

<210> 32

<211> 391

<212> PRT

<213> adenoviridae

<220>

<221> MISC\_FEATURE



<222> (1)..(5)  
<223> 'Xaa' at positions 1-5 indicates an unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> VARIANT  
<222> (1)..(391)  
<223> Serotype 13 fiber protein

<220>  
<221> MISC\_FEATURE  
<222> (23)..(23)  
<223> 'Xaa' at position 23 indicates an unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (41)..(41)  
<223> 'Xaa' at position 41 indicates an unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (43)..(43)  
<223> 'Xaa' at position 43 indicates an unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (49)..(49)  
<223> 'Xaa' at position 49 indicates an unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (385)..(385)  
<223> 'Xaa' at position 385 indicates an unidentified amino acid due to unidentified nucleotide(s)

<400> 32

Xaa	Xaa	Xaa	Xaa	Xaa	Ser	Ala	Pro	Thr	Ile	Phe	Met	Leu	Leu	Gln	Met
1				5					10					15	

Lys	Arg	Ala	Arg	Ser	Ser	Xaa	Asp	Thr	Phe	Asn	Pro	Val	Tyr	Pro	Tyr
			20					25					30		

Gly	Tyr	Ala	Arg	Asn	Gln	Asn	Ile	Xaa	Phe	Xaa	Thr	Pro	Pro	Phe	Val
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

35					40					45					
Xaa	Ser	Asp	Gly	Phe	Lys	Asn	Phe	Pro	Pro	Gly	Val	Leu	Ser	Leu	Lys
	50					55					60				
Leu	Ala	Asp	Pro	Ile	Thr	Ile	Ala	Asn	Gly	Asp	Val	Ser	Leu	Lys	Val
65					70					75					80
Gly	Gly	Gly	Leu	Thr	Leu	Gln	Glu	Gly	Ser	Leu	Thr	Val	Asp	Pro	Lys
				85					90					95	
Ala	Pro	Leu	Gln	Leu	Ala	Asn	Asp	Lys	Lys	Leu	Glu	Leu	Val	Tyr	Asp
			100					105					110		
Asp	Pro	Phe	Glu	Val	Ser	Thr	Asn	Lys	Leu	Ser	Leu	Lys	Val	Gly	His
		115					120					125			
Gly	Leu	Lys	Val	Leu	Asp	Asp	Lys	Ser	Ala	Gly	Gly	Leu	Lys	Asp	Leu
	130					135					140				
Ile	Gly	Lys	Leu	Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Ile	Glu	Asn
145					150					155					160
Leu	Gln	Asn	Asp	Asp	Gly	Ser	Ser	Arg	Gly	Val	Gly	Ile	Asn	Val	Arg
			165						170					175	
Leu	Gly	Thr	Asp	Gly	Gly	Leu	Ser	Phe	Asp	Arg	Lys	Gly	Glu	Leu	Val
			180					185					190		
Ala	Trp	Asn	Arg	Lys	Asp	Asp	Arg	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp
		195					200					205			
Pro	Ser	Pro	Asn	Cys	Lys	Ala	Glu	Thr	Glu	Lys	Asp	Ser	Lys	Leu	Thr
	210					215					220				
Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Thr	Val	Ser	Ile
225					230					235					240
Ile	Val	Leu	Lys	Gly	Lys	Tyr	Glu	Phe	Val	Lys	Lys	Glu	Thr	Glu	Pro
				245					250					255	
Lys	Ser	Phe	Asp	Val	Lys	Leu	Leu	Phe	Asp	Ser	Lys	Gly	Val	Leu	Leu
			260					265					270		

Pro Thr Ser Asn Leu Ser Lys Glu Tyr Trp Asn Tyr Arg Ser Tyr Asp  
275 280 285

Asn Asn Ile Gly Thr Pro Tyr Glu Asn Ala Val Pro Phe Met Pro Asn  
290 295 300

Leu Lys Ala Tyr Pro Lys Pro Thr Lys Thr Ala Ser Asp Lys Ala Glu  
305 310 315 320

Asn Lys Ile Ser Ser Ala Lys Asn Lys Ile Val Ser Asn Phe Tyr Phe  
325 330 335

Gly Gly Gln Ala Tyr Gln Pro Gly Thr Ile Ile Ile Lys Phe Asn Glu  
340 345 350

Glu Ile Asp Glu Thr Cys Ala Tyr Ser Ile Thr Phe Asn Phe Gly Trp  
355 360 365

Gly Lys Val Tyr Asp Asn Pro Phe Pro Phe Asp Thr Thr Ser Phe Thr  
370 375 380

Xaa Ser Tyr Ile Ala Gln Glu  
385 390

<210> 33  
<211> 290  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(290)  
<223> Serotype 14 fiber protein

<400> 33

His Pro Phe Ile Asn Pro Gly Phe Ile Ser Pro Asn Gly Phe Thr Gln  
1 5 10 15

Ser Pro Asp Gly Val Leu Thr Leu Lys Cys Leu Thr Pro Leu Thr Thr  
20 25 30

Thr Gly Gly Ser Leu Gln Leu Lys Val Gly Gly Gly Leu Thr Val Asp  
35 40 45

Asp Thr Asp Gly Thr Leu Gln Glu Asn Ile Gly Ala Thr Thr Pro Leu  
50 55 60

Val Lys Thr Gly His Ser Ile Gly Leu Ser Leu Gly Ala Gly Leu Gly  
65 70 75 80

Thr Asp Glu Asn Lys Leu Cys Thr Lys Leu Gly Glu Gly Leu Thr Phe  
85 90 95

Asn Ser Asn Asn Ile Cys Ile Asp Asp Asn Ile Asn Thr Leu Trp Thr  
100 105 110

Gly Val Asn Pro Thr Glu Ala Asn Cys Gln Met Met Asp Ser Ser Glu  
115 120 125

Ser Asn Asp Cys Lys Leu Ile Leu Thr Leu Val Lys Thr Gly Ala Leu  
130 135 140

Val Thr Ala Phe Val Tyr Val Ile Gly Val Ser Asn Asn Phe Asn Met  
145 150 155 160

Leu Thr Thr Tyr Arg Asn Ile Asn Phe Thr Ala Glu Leu Phe Phe Asp  
165 170 175

Ser Ala Gly Asn Leu Leu Thr Ser Leu Ser Ser Leu Lys Thr Pro Leu  
180 185 190

Asn His Lys Ser Gly Gln Thr Trp Leu Leu Val Pro Leu Leu Met Leu  
195 200 205

Lys Val Ser Cys Pro Ala Gln Leu Leu Ile Leu Ser Ile Ile Ile Leu  
210 215 220

Glu Lys Asn Lys Thr Thr Phe Thr Glu Leu Val Thr Thr Gln Leu Val  
225 230 235 240

Ile Thr Leu Leu Phe Pro Leu Thr Ile Ser Val Met Leu Asn Gln Arg  
245 250 255

Ala Ile Arg Ala Asp Thr Ser Tyr Cys Ile Arg Ile Thr Trp Ser Trp  
260 265 270

Asn Thr Gly Asp Ala Pro Glu Gly Gln Thr Ser Ala Thr Thr Leu Val  
275 280 285

Thr Ser  
290

<210> 34  
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<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(345)  
<223> Serotype 20 fiber protein

<400> 34

Ile Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly  
1 5 10 15

Leu Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro  
20 25 30

Ile Ala Ile Val Asn Gly Asn Val Ser Leu Lys Val Gly Gly Gly Ile  
35 40 45

Thr Val Glu Gln Asp Ser Gly Gln Leu Ile Ala Asn Pro Lys Ala Pro  
50 55 60

Leu Gln Val Ala Asn Asp Lys Leu Glu Leu Ser Tyr Ala Tyr Pro Phe  
65 70 75 80

Glu Thr Ser Ala Asn Lys Leu Ser Leu Lys Val Gly Gln Gly Leu Lys  
85 90 95

Val Leu Asp Glu Lys Asp Ser Gly Gly Leu Gln Asn Leu Leu Gly Lys  
100 105 110

Leu Val Val Leu Thr Gly Lys Gly Ile Gly Val Glu Glu Leu Lys Asn  
115 120 125

Pro Asp Asn Thr Asn Arg Gly Val Gly Ile Asn Val Arg Leu Gly Lys  
130 135 140

Asp Gly Gly Leu Ser Phe Asn Lys Asn Gly Glu Leu Val Ala Trp Asn  
145 150 155 160

Lys His Asn Asp Thr Gly Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro  
165 170 175

Asn Cys Lys Ile Glu Glu Val Lys Asp Ser Lys Leu Thr Leu Val Leu  
180 185 190

Thr Lys Cys Gly Ser Gln Ile Leu Ala Thr Met Ala Phe Gln Val Val  
195 200 205

Lys Gly Thr Tyr Glu Asn Ile Ser Lys Asn Thr Ala Lys Asn Ser Phe  
210 215 220

Ser Ile Lys Leu Leu Phe Asp Asp Asn Gly Lys Leu Leu Glu Gly Ser  
225 230 235 240

Ser Leu Asp Lys Asp Tyr Trp Asn Phe Arg Ser Asp Asp Ser Ile Ile  
245 250 255

Pro Asn Gln Tyr Asp Asn Ala Val Pro Phe Met Pro Asn Leu Lys Ala  
260 265 270

Tyr Pro Lys Pro Ser Thr Val Leu Pro Ser Thr Asp Lys Asn Ser Asn  
275 280 285

Gly Lys Asn Thr Ile Val Ser Asn Leu Tyr Leu Glu Gly Lys Ala Tyr  
290 295 300

Gln Pro Val Ala Val Thr Ile Thr Phe Asn Lys Glu Ile Gly Cys Thr  
305 310 315 320

Tyr Ser Ile Thr Phe Asp Phe Gly Trp Ala Lys Thr Tyr Asp Val Pro  
325 330 335

Ile Pro Phe Asp Ser Ser Ser Phe Thr  
340 345

<210> 35  
<211> 346  
<212> PRT  
<213> adenoviridae

<220>  
 <221> VARIANT  
 <222> (1)..(346)  
 <223> Serotype 23 fiber protein

<400> 35

Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe  
 1 5 10 15

Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile  
 20 25 30

Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Thr  
 35 40 45

Val Glu Gln Asp Ser Gly Asn Leu Lys Val Asn Thr Lys Ala Pro Leu  
 50 55 60

Gln Val Ala Ala Asp Lys Gln Leu Glu Ile Ala Leu Ala Asp Pro Phe  
 65 70 75 80

Glu Val Ser Lys Gly Arg Leu Gly Ile Lys Ala Gly His Gly Leu Lys  
 85 90 95

Val Ile Asp Asn Ser Ile Ser Gly Leu Glu Gly Leu Val Gly Thr Leu  
 100 105 110

Val Val Leu Thr Gly His Gly Ile Gly Thr Glu Asn Leu Leu Asn Asn  
 115 120 125

Asp Gly Ser Ser Arg Gly Val Gly Ile Asn Val Arg Leu Gly Lys Asp  
 130 135 140

Gly Gly Leu Ser Phe Asp Lys Lys Gly Asp Leu Val Ala Trp Asn Lys  
 145 150 155 160

Lys Tyr Asp Thr Arg Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro Asn  
 165 170 175

Cys Lys Val Ile Glu Ala Lys Asp Ser Lys Leu Thr Leu Val Leu Thr  
 180 185 190

Lys Cys Gly Ser Gln Ile Leu Ala Asn Met Ser Leu Leu Ile Leu Lys  
195 200 205

Gly Thr Tyr Glu Tyr Ile Ser Asn Ala Ile Ala Asn Lys Ser Phe Thr  
210 215 220

Ile Lys Leu Leu Phe Asn Asp Lys Gly Val Leu Met Asp Gly Ser Ser  
225 230 235 240

Leu Asp Lys Asp Tyr Trp Asn Tyr Lys Ser Asp Asp Ser Val Met Ser  
245 250 255

Lys Ala Tyr Glu Asn Ala Val Pro Phe Met Pro Asn Leu Lys Ala Tyr  
260 265 270

Pro Asn Pro Thr Thr Ser Thr Thr Asn Pro Ser Thr Asp Lys Lys Ser  
275 280 285

Asn Gly Lys Asn Ala Ile Val Ser Asn Val Tyr Leu Glu Gly Arg Ala  
290 295 300

Tyr Gln Pro Val Ala Ile Thr Ile Thr Phe Asn Lys Glu Thr Gly Cys  
305 310 315 320

Thr Tyr Ser Met Thr Phe Asp Phe Gly Trp Ser Lys Val Tyr Asn Asp  
325 330 335

Pro Ile Pro Phe Asp Thr Ser Ser Leu Thr  
340 345

<210> 36  
<211> 390  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(390)  
<223> Serotype 24 fiber protein

<400> 36

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15



Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Val Glu Lys Asp Ser Gly Asn Leu Lys Val Asn  
85 90 95

Pro Lys Ala Pro Leu Gln Val Thr Thr Asp Lys Gln Leu Glu Ile Ala  
100 105 110

Leu Ala Tyr Pro Phe Glu Val Ser Asn Gly Lys Leu Gly Ile Lys Ala  
115 120 125

Gly His Gly Leu Lys Val Ile Asp Lys Ile Ala Gly Leu Glu Gly Leu  
130 135 140

Ala Gly Thr Leu Val Val Leu Thr Gly Lys Gly Ile Gly Thr Glu Asn  
145 150 155 160

Leu Glu Asn Ser Asp Gly Ser Ser Arg Gly Val Gly Ile Asn Val Arg  
165 170 175

Leu Ala Lys Asp Gly Gly Leu Ser Phe Asp Lys Lys Gly Asp Leu Val  
180 185 190

Ala Trp Asn Lys His Asp Asp Arg Arg Thr Leu Trp Thr Thr Pro Asp  
195 200 205

Pro Ser Pro Asn Cys Thr Ile Asp Gln Glu Arg Asp Ser Lys Leu Thr  
210 215 220

Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Asn Val Ser Leu  
225 230 235 240

Leu Val Val Lys Gly Lys Phe Ser Asn Ile Asn Asn Asn Thr Asn Pro



<400> 37

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Thr Ile Ser Asn Gly Asp Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Val Glu Gln Asp Ser Gly Asn Leu Ser Val Asn  
85 90 95

Pro Lys Ala Pro Leu Gln Val Gly Thr Asp Lys Lys Leu Glu Leu Ala  
100 105 110

Leu Ala Pro Pro Phe Asn Val Lys Asp Asn Lys Leu Asp Leu Leu Val  
115 120 125

Gly Asp Gly Leu Lys Val Ile Asp Lys Ser Ile Ser Xaa Leu Pro Gly  
130 135 140

Leu Leu Asn Tyr Leu Val Val Leu Thr Gly Lys Gly Ile Gly Asn Glu  
145 150 155 160

Glu Leu Lys Asn Asp Asp Gly Ser Asn Lys Gly Val Gly Leu Cys Val  
165 170 175

Arg Ile Gly Glu Gly Gly Gly Leu Thr Phe Asp Asp Lys Gly Tyr Leu  
180 185 190

Val Ala Trp Asn Lys Lys His Asp Ile Arg Thr Leu Trp Thr Thr Leu  
195 200 205

Asp Pro Ser Pro Asn Cys Arg Ile Asp Val Asp Lys Asp Ser Lys Leu  
210 215 220

Thr Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Asn Val Ser  
225 230 235 240

Leu Leu Val Val Lys Gly Arg Phe Gln Asn Leu Asn Tyr Lys Thr Asn  
245 250 255

Pro Asn Leu Pro Lys Thr Phe Thr Ile Lys Leu Leu Phe Asp Glu Asn  
260 265 270

Gly Ile Leu Lys Asp Ser Ser Asn Leu Asp Lys Asn Tyr Trp Asn Tyr  
275 280 285

Arg Asn Gly Asn Ser Ile Leu Ala Glu Gln Tyr Lys Asn Ala Val Gly  
290 295 300

Phe Met Pro Asn Leu Ala Ala Tyr Pro Lys Ser Thr Thr Thr Gln Ser  
305 310 315 320

Lys Leu Tyr Ala Arg Asn Thr Ile Phe Gly Asn Ile Tyr Leu Asp Ser  
325 330 335

Gln Ala Tyr Asn Pro Val Val Ile Lys Ile Thr Phe Asn Gln Glu Ala  
340 345 350

Asp Ser Ala Tyr Ser Ile Thr Leu Asn Tyr Ser Trp Gly Lys Asp Tyr  
355 360 365

Glu Asn Ile Pro Phe Asp Ser  
370 375

<210> 38

<211> 335

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(335)

<223> Serotype 27 fiber protein

<400> 38

Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Lys Asn  
1 5 10 15

Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile Thr Ile  
20 25 30

Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Val Val Glu  
35 40 45

Lys Glu Ser Gly Lys Leu Ser Val Asp Pro Lys Thr Pro Leu Gln Val  
50 55 60

Ala Ser Asp Asn Lys Leu Glu Leu Ser Tyr Asn Ala Pro Phe Lys Val  
65 70 75 80

Glu Asn Asp Lys Leu Ser Leu Asp Val Gly His Gly Leu Lys Val Ile  
85 90 95

Gly Asn Glu Val Ser Ser Leu Pro Gly Leu Ile Asn Lys Leu Val Val  
100 105 110

Leu Thr Gly Lys Gly Ile Gly Thr Glu Glu Leu Lys Glu Gln Asn Ser  
115 120 125

Asp Lys Ile Ile Gly Val Gly Ile Asn Val Arg Ala Arg Gly Gly Leu  
130 135 140

Ser Phe Asp Asn Asp Gly Tyr Leu Val Ala Trp Asn Pro Lys Tyr Asp  
145 150 155 160

Thr Arg Thr Leu Trp Thr Thr Pro Asp Thr Ser Pro Asn Cys Lys Met  
165 170 175

Leu Thr Lys Lys Asp Ser Lys Leu Thr Leu Thr Leu Thr Lys Cys Gly  
180 185 190

Ser Gln Ile Leu Gly Asn Val Ser Leu Leu Ala Val Ser Gly Lys Tyr  
195 200 205

Leu Asn Met Thr Lys Asp Glu Thr Gly Val Lys Ile Ile Leu Leu Phe  
210 215 220

Asp Arg Asn Gly Val Leu Met Gln Glu Ser Ser Leu Asp Lys Glu Tyr  
225 230 235 240

Trp Asn Tyr Arg Asn Asp Asn Asn Val Ile Gly Thr Pro Tyr Glu Asn  
245 250 255

Ala Val Gly Phe Met Pro Asn Leu Val Ala Tyr Pro Lys Pro Thr Ser  
260 265 270

Ala Asp Ala Lys Asn Tyr Ser Arg Ser Lys Ile Ile Ser Asn Val Tyr  
275 280 285

Leu Lys Gly Leu Ile Tyr Gln Pro Val Ile Ile Ile Ala Ser Phe Asn  
290 295 300

Gln Glu Thr Thr Asn Gly Cys Val Tyr Ser Ile Ser Phe Asp Phe Thr  
305 310 315 320

Cys Ser Lys Asp Tyr Thr Gly Gln Gln Phe Asp Val Thr Ser Phe  
325 330 335

<210> 39  
<211> 374  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(374)  
<223> Serotype 28 fiber protein

<400> 39

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Thr Ile Ala Asn Gly Asp Val Ser Leu Lys Leu  
65 70 75 80

Gly Gly Gly Leu Thr Val Glu Lys Glu Ser Gly Asn Leu Thr Val Asn  
85 90 95

Pro Lys Ala Pro Leu Gln Val Ala Ser Gly Gln Leu Glu Leu Ala Tyr  
100 105 110

Tyr Ser Pro Phe Asp Val Lys Asn Asn Met Leu Thr Leu Lys Ala Gly  
115 120 125

His Gly Leu Ala Val Val Thr Lys Asp Asn Thr Asp Leu Gln Pro Leu  
130 135 140

Met Gly Thr Leu Val Val Leu Thr Gly Lys Gly Ile Gly Thr Gly Thr  
145 150 155 160

Ser Ala His Gly Gly Thr Ile Asp Val Arg Ile Gly Lys Asn Gly Ser  
165 170 175

Leu Ala Phe Asp Lys Asn Gly Asp Leu Val Ala Trp Asp Lys Glu Asn  
180 185 190

Asp Arg Arg Thr Leu Trp Thr Thr Pro Asp Thr Ser Pro Asn Cys Lys  
195 200 205

Met Ser Glu Val Lys Asp Ser Lys Leu Thr Leu Ile Leu Thr Lys Cys  
210 215 220

Gly Ser Gln Ile Leu Gly Ser Val Ser Leu Leu Ala Val Lys Gly Glu  
225 230 235 240

Tyr Gln Asn Met Thr Ala Ser Thr Asn Lys Asn Val Lys Ile Thr Leu  
245 250 255

Leu Phe Asp Ala Asn Gly Val Leu Leu Glu Gly Ser Ser Leu Asp Lys  
260 265 270

Glu Tyr Trp Asn Phe Arg Asn Asn Asp Ser Thr Val Ser Gly Lys Tyr  
275 280 285

Glu Asn Ala Val Pro Phe Met Pro Asn Ile Thr Ala Tyr Lys Pro Val  
290 295 300

Asn Ser Lys Ser Tyr Ala Arg Ser His Ile Phe Gly Asn Val Tyr Ile

305 310 315 320

Asp Ala Lys Pro Tyr Asn Pro Val Val Ile Lys Ile Ser Phe Asn Gln  
325 330 335

Glu Thr Gln Asn Asn Cys Val Tyr Ser Ile Ser Phe Asp Tyr Thr Cys  
340 345 350

Ser Lys Glu Tyr Thr Gly Met Gln Phe Asp Val Thr Ser Phe Thr Phe  
355 360 365

Ser Tyr Ile Ala Gln Glu  
370

<210> 40  
<211> 343  
<212> PRT  
<213> adenoviridae  
  
<220>  
<221> VARIANT  
<222> (1)..(343)  
<223> Serotype 29 fiber protein

<400> 40

Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe  
1 5 10 15

Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile  
20 25 30

Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Thr  
35 40 45

Val Glu Gln Asp Ser Gly Asn Leu Ser Val Asn Pro Lys Ala Pro Leu  
50 55 60

Gln Val Gly Thr Asp Lys Lys Leu Glu Leu Ala Leu Ala Pro Pro Phe  
65 70 75 80

Asp Val Arg Asp Asn Lys Leu Ala Ile Leu Val Gly Asp Gly Leu Lys  
85 90 95

Val Ile Asp Arg Ser Ile Ser Asp Leu Pro Gly Leu Leu Asn Tyr Leu



100	105	110
Val Val Leu Thr Gly Lys Gly Ile Gly Asn Glu Glu Leu Lys Asn Asp		
115	120	125
Asp Gly Ser Asn Lys Gly Val Gly Leu Cys Val Arg Ile Gly Glu Gly		
130	135	140
Gly Gly Leu Thr Phe Asp Asp Lys Gly Tyr Leu Val Ala Trp Asn Asn		
145	150	155
Lys His Asp Ile Arg Thr Leu Trp Thr Thr Leu Asp Pro Ser Pro Asn		
	165	170
Cys Lys Ile Asp Ile Glu Lys Asp Ser Lys Leu Thr Leu Val Leu Thr		
	180	185
Lys Cys Gly Ser Gln Ile Leu Ala Asn Val Ser Leu Ile Ile Val Asn		
195	200	205
Gly Lys Phe Lys Ile Leu Asn Asn Lys Thr Asp Pro Ser Leu Pro Lys		
210	215	220
Ser Phe Asn Ile Lys Leu Leu Phe Asp Gln Asn Gly Val Leu Leu Glu		
225	230	235
Asn Ser Asn Ile Glu Lys Gln Tyr Leu Asn Phe Arg Ser Gly Asp Ser		
	245	250
Ile Leu Pro Glu Pro Tyr Lys Asn Ala Ile Gly Phe Met Pro Asn Leu		
	260	265
Leu Ala Tyr Ala Lys Ala Thr Thr Asp Gln Ser Lys Ile Tyr Ala Arg		
	275	280
Asn Thr Ile Tyr Gly Asn Ile Tyr Leu Asp Asn Gln Pro Tyr Asn Pro		
290	295	300
Val Val Ile Lys Ile Thr Phe Asn Asn Glu Ala Asp Ser Ala Tyr Ser		
305	310	315
Ile Thr Phe Asn Tyr Ser Trp Thr Lys Asp Tyr Asp Asn Ile Pro Phe		
	325	330
		335

Asp Ser Thr Ser Phe Thr Ser  
340

<210> 41  
<211> 386  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(386)  
<223> Serotype 30 fiber protein

<220>  
<221> MISC\_FEATURE  
<222> (23)..(23)  
<223> 'Xaa' at position 23 indicates unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (43)..(43)  
<223> 'Xaa' at position 43 indicates unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (49)..(49)  
<223> 'Xaa' at position 49 indicates unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (97)..(97)  
<223> 'Xaa' at position 97 indicates unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (152)..(152)  
<223> 'Xaa' at position 152 indicates unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (186)..(186)  
<223> 'Xaa' at position 186 indicates unidentified amino acid due to unidentified nucleotide(s)

<400> 41

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Xaa Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Xaa Thr Pro Pro Phe Val  
35 40 45

Xaa Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Val Glu Gln Asp Ser Gly Asn Leu Ser Val Asn  
85 90 95

Xaa Lys Ala Pro Leu Gln Val Gly Thr Asp Lys Lys Leu Glu Leu Ala  
100 105 110

Leu Ala Pro Pro Phe Asp Val Arg Asp Asn Lys Leu Ala Ile Leu Val  
115 120 125

Gly Asp Gly Leu Lys Val Ile Asp Arg Ser Ile Ser Asp Leu Pro Gly  
130 135 140

Leu Leu Asn Tyr Leu Val Val Xaa Thr Gly Lys Gly Ile Gly Asn Glu  
145 150 155 160

Glu Leu Lys Asn Asp Asp Gly Ser Asn Lys Gly Val Gly Leu Cys Val  
165 170 175

Arg Ile Gly Glu Gly Gly Gly Leu Thr Xaa Asp Asp Lys Gly Tyr Leu  
180 185 190

Val Ala Trp Asn Asn Lys His Asp Ile Arg Thr Leu Trp Thr Thr Leu  
195 200 205

Asp Pro Ser Pro Asn Cys Lys Ile Asp Ile Glu Lys Asp Ser Lys Leu

210	215	220
Thr Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Asn Val Ser		
225	230	235 240
Leu Ile Ile Val Asn Gly Lys Phe Lys Ile Leu Asn Asn Lys Thr Asp		
	245	250 255
Pro Ser Leu Pro Lys Ser Phe Asn Ile Lys Leu Leu Phe Asp Gln Asn		
	260	265 270
Gly Val Leu Leu Glu Asn Ser Asn Ile Glu Lys Gln Tyr Leu Asn Phe		
	275	280 285
Arg Ser Gly Asp Ser Ile Leu Pro Glu Pro Tyr Lys Asn Ala Ile Gly		
	290	295 300
Phe Met Pro Asn Leu Leu Ala Tyr Ala Lys Ala Thr Thr Asp Gln Ser		
305	310	315 320
Lys Ile Tyr Ala Arg Asn Thr Ile Tyr Gly Asn Ile Tyr Leu Asp Asn		
	325	330 335
Gln Pro Tyr Asn Pro Val Val Ile Lys Ile Thr Phe Asn Asn Glu Ala		
	340	345 350
Asp Ser Ala Tyr Ser Ile Thr Phe Asn Tyr Ser Trp Thr Lys Asp Tyr		
	355	360 365
Asp Asn Ile Pro Phe Asp Ser Thr Ser Phe Thr Phe Ser Tyr Ile Ala		
	370	375 380
Gln Glu		
385		

<210> 42  
 <211> 391  
 <212> PRT  
 <213> adenoviridae  
  
 <220>  
 <221> VARIANT  
 <222> (1)..(391)  
 <223> Serotype 32 fiber protein

<400> 42

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Thr Ile Ala Asn Gly Asn Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Leu Glu Gln Asp Ser Gly Lys Leu Ile Val Asn  
85 90 95

Pro Lys Ala Pro Leu Gln Val Ala Asn Asp Lys Leu Glu Leu Ser Tyr  
100 105 110

Ala Asp Pro Phe Glu Thr Ser Ala Asn Lys Leu Ser Leu Lys Val Gly  
115 120 125

His Gly Leu Lys Val Leu Asp Glu Lys Asn Ala Gly Gly Leu Lys Asp  
130 135 140

Leu Ile Gly Thr Leu Val Val Leu Thr Gly Lys Gly Ile Gly Val Glu  
145 150 155 160

Glu Leu Lys Asn Ala Asp Asn Thr Asn Arg Gly Val Gly Ile Asn Val  
165 170 175

Arg Leu Gly Lys Asp Gly Gly Leu Ser Phe Asp Lys Lys Gly Asp Leu  
180 185 190

Val Ala Trp Asn Lys His Asp Asp Arg Arg Thr Leu Trp Thr Thr Pro  
195 200 205

Asp Pro Ser Pro Asn Cys Thr Ile Asp Glu Glu Arg Asp Ser Lys Leu  
210 215 220

Thr Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Asn Val Ser  
225 230 235 240

Leu Leu Val Val Lys Gly Lys Phe Ser Asn Ile Asn Asn Asn Thr Asn  
245 250 255

Pro Thr Asp Lys Lys Ile Thr Val Lys Leu Leu Phe Asn Glu Lys Gly  
260 265 270

Val Leu Met Asp Ser Ser Ser Leu Lys Lys Glu Tyr Trp Asn Tyr Arg  
275 280 285

Asn Asp Asn Ser Thr Val Ser Gln Ala Tyr Asp Asn Ala Val Pro Phe  
290 295 300

Met Pro Asn Ile Lys Ala Tyr Pro Lys Pro Thr Thr Asp Thr Ser Ala  
305 310 315 320

Lys Pro Glu Asp Lys Lys Ser Ala Ala Lys Arg Tyr Ile Val Ser Asn  
325 330 335

Val Tyr Ile Gly Gly Leu Pro Asp Lys Thr Val Val Ile Thr Ile Lys  
340 345 350

Leu Asn Ala Glu Thr Glu Ser Ala Tyr Ser Met Thr Phe Glu Phe Thr  
355 360 365

Trp Ala Lys Thr Phe Glu Asn Leu Gln Phe Asp Ser Ser Ser Phe Thr  
370 375 380

Phe Ser Tyr Ile Ala Gln Glu  
385 390

<210> 43  
<211> 391  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(391)  
<223> Serotype 33 fiber protein

<400> 43

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Thr Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Leu Gln Glu Gly Ser Leu Thr Val Asn Pro Lys  
85 90 95

Ala Pro Leu Gln Leu Ala Asn Asp Lys Lys Leu Glu Leu Val Tyr Asp  
100 105 110

Asp Pro Phe Glu Val Ser Thr Asn Lys Leu Ser Leu Lys Val Gly His  
115 120 125

Gly Leu Lys Val Leu Asp Asp Lys Ser Ala Gly Gly Leu Gln Asp Leu  
130 135 140

Ile Gly Lys Leu Val Val Leu Thr Gly Lys Gly Ile Gly Ile Glu Asn  
145 150 155 160

Leu Gln Asn Asp Asp Gly Ser Ser Arg Gly Val Gly Ile Asn Val Arg  
165 170 175

Leu Gly Thr Asp Gly Gly Leu Ser Phe Asp Arg Lys Gly Glu Leu Val  
180 185 190

Ala Trp Asn Arg Lys Asp Asp Arg Arg Thr Leu Trp Thr Thr Pro Asp  
195 200 205

Pro Ser Pro Asn Cys Lys Ala Glu Thr Glu Lys Asp Ser Lys Leu Thr  
210 215 220

Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Thr Val Ser Ile  
225 230 235 240

Ile Val Leu Lys Gly Lys Tyr Glu Phe Val Lys Lys Glu Thr Glu Pro  
245 250 255

Lys Ser Phe Asp Val Lys Leu Leu Phe Asp Ser Lys Gly Val Leu Leu  
260 265 270

Pro Thr Ser Asn Leu Ser Lys Glu Tyr Trp Asn Tyr Arg Ser Tyr Asp  
275 280 285

Asn Asn Ile Gly Thr Pro Tyr Glu Asn Ala Val Pro Phe Met Pro Asn  
290 295 300

Leu Lys Ala Tyr Pro Lys Pro Thr Lys Thr Ala Ser Asp Lys Ala Glu  
305 310 315 320

Asn Lys Ile Ser Ser Ala Lys Asn Lys Ile Val Ser Asn Phe Tyr Phe  
325 330 335

Gly Gly Gln Ala Tyr Gln Pro Gly Thr Ile Ile Ile Lys Phe Asn Glu  
340 345 350

Glu Ile Asp Glu Thr Cys Ala Tyr Ser Ile Thr Phe Asn Phe Gly Trp  
355 360 365

Gly Lys Val Tyr Asp Asn Pro Phe Pro Phe Asp Thr Thr Ser Phe Thr  
370 375 380

Phe Ser Tyr Ile Ala Gln Glu  
385 390

<210> 44  
<211> 338  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(338)  
<223> Serotype 34 fiber protein

<400> 44



Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Glu Asp Glu Ser Thr Ser Gln His Pro Phe Ile Asn Pro Gly Phe Ile  
35 40 45

Ser Pro Asn Gly Phe Thr Gln Ser Pro Asp Gly Val Leu Thr Leu Lys  
50 55 60

Cys Leu Thr Pro Leu Thr Thr Thr Gly Gly Ser Leu Gln Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Val Asp Asp Thr Asp Gly Thr Leu Gln Lys Asn  
85 90 95

Ile Arg Ala Thr Thr Pro Ile Thr Lys Asn Asn His Ser Val Glu Leu  
100 105 110

Thr Ile Gly Asn Gly Leu Glu Thr Gln His Asn Lys Leu Cys Ala Lys  
115 120 125

Leu Gly Asn Gly Leu Lys Phe Asn Asn Gly Asp Ile Cys Ile Lys Asp  
130 135 140

Ser Ile Asn Thr Leu Trp Thr Gly Ile Asn Pro Pro Pro Asn Cys Gln  
145 150 155 160

Ile Val Glu Asn Thr Asn Thr Asn Asp Gly Lys Leu Thr Leu Val Leu  
165 170 175

Val Lys Asn Gly Gly Leu Val Asn Gly Tyr Val Ser Leu Val Gly Val  
180 185 190

Ser Asp Thr Val Asn Gln Met Phe Thr Gln Lys Thr Ala Asn Ile Gln  
195 200 205

Leu Arg Leu Tyr Phe Asp Ser Ser Gly Asn Leu Leu Thr Asp Glu Ser  
210 215 220

Asp Leu Lys Ile Pro Leu Lys Asn Lys Ser Ser Thr Ala Thr Ser Glu  
225 230 235 240

Thr Val Ala Ser Ser Lys Ala Phe Met Pro Ser Thr Thr Ala Tyr Pro  
245 250 255

Phe Asn Thr Thr Thr Arg Asp Ser Glu Asn Tyr Ile His Gly Ile Cys  
260 265 270

Tyr Tyr Met Thr Ser Tyr Asp Arg Ser Leu Phe Pro Leu Asn Ile Ser  
275 280 285

Ile Met Leu Asn Ser Arg Met Ile Ser Ser Asn Val Ala Tyr Ala Ile  
290 295 300

Gln Phe Glu Trp Asn Leu Asn Ala Ser Glu Ser Pro Glu Lys Gln His  
305 310 315 320

Met Thr Leu Thr Thr Ser Pro Phe Phe Phe Ser Tyr Ile Ile Glu Asp  
325 330 335

Asp Asn

<210> 45  
<211> 338  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(338)  
<223> Serotype 35 fiber protein

<400> 45

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Glu Asp Glu Ser Thr Ser Gln His Pro Phe Ile Asn Pro Gly Phe Ile  
35 40 45

Ser Pro Asn Gly Phe Thr Gln Ser Pro Asp Gly Val Leu Thr Leu Lys  
50 55 60

Cys Leu Thr Pro Leu Thr Thr Thr Gly Gly Ser Leu Gln Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Val Asp Asp Thr Asp Gly Thr Leu Gln Glu Asn  
85 90 95

Ile Arg Ala Thr Ala Pro Ile Thr Lys Asn Asn His Ser Val Glu Leu  
100 105 110

Ser Ile Gly Asn Gly Leu Glu Thr Gln Asn Asn Lys Leu Cys Ala Lys  
115 120 125

Leu Gly Asn Gly Leu Lys Phe Asn Asn Gly Asp Ile Cys Ile Lys Asp  
130 135 140

Ser Ile Asn Thr Leu Trp Thr Gly Ile Asn Pro Pro Pro Asn Cys Gln  
145 150 155 160

Ile Val Glu Asn Thr Asn Thr Asn Asp Gly Lys Leu Thr Leu Val Leu  
165 170 175

Val Lys Asn Gly Gly Leu Val Asn Gly Tyr Val Ser Leu Val Gly Val  
180 185 190

Ser Asp Thr Val Asn Gln Met Phe Thr Gln Lys Thr Ala Asn Ile Gln  
195 200 205

Leu Arg Leu Tyr Phe Asp Ser Ser Gly Asn Leu Leu Thr Glu Glu Ser  
210 215 220

Asp Leu Lys Ile Pro Leu Lys Asn Lys Ser Ser Thr Ala Thr Ser Glu  
225 230 235 240

Thr Val Ala Ser Ser Lys Ala Phe Met Pro Ser Thr Thr Ala Tyr Pro  
245 250 255

Phe Asn Thr Thr Thr Arg Asp Ser Glu Asn Tyr Ile His Gly Ile Cys  
260 265 270

Tyr Tyr Met Thr Ser Tyr Asp Arg Ser Leu Phe Pro Leu Asn Ile Ser

275                      280                      285  
 Ile Met Leu Asn Ser Arg Met Ile Ser Ser Asn Val Ala Tyr Ala Ile  
 290                      295                      300  
 Gln Phe Glu Trp Asn Leu Asn Ala Ser Glu Ser Pro Glu Ser Asn Ile  
 305                      310                      315                      320  
 Met Thr Leu Thr Thr Ser Pro Phe Phe Phe Ser Tyr Ile Thr Glu Asp  
 325                      330                      335

Asp Asn

<210> 46  
 <211> 392  
 <212> PRT  
 <213> adenoviridae  
 <220>  
 <221> VARIANT  
 <222> (1)..(392)  
 <223> Serotype 36 fiber protein

<400> 46

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
 1                      5                      10                      15  
 Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
 20                      25                      30  
 Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
 35                      40                      45  
 Ser Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
 50                      55                      60  
 Leu Ala Asp Pro Ile Ala Ile Val Asn Gly Asp Val Ser Leu Lys Val  
 65                      70                      75                      80  
 Gly Gly Gly Leu Thr Val Glu Gln Asp Ser Gly Lys Leu Lys Val Asn  
 85                      90                      95  
 Pro Lys Ile Pro Leu Gln Val Val Asn Asp Gln Leu Glu Leu Ala Thr

	100		105		110														
Asp	Lys	Pro	Phe	Lys	Ile	Glu	Asn	Asn	Lys	Leu	Ala	Leu	Asp	Val	Gly				
	115						120					125							
His	Gly	Leu	Lys	Val	Ile	Asp	Lys	Thr	Ile	Ser	Asp	Leu	Gln	Gly	Leu				
	130					135					140								
Val	Gly	Lys	Leu	Val	Val	Leu	Thr	Gly	Val	Gly	Ile	Gly	Thr	Glu	Thr				
145					150					155					160				
Leu	Lys	Asp	Lys	Asn	Asp	Lys	Val	Ile	Gly	Ser	Ala	Val	Asn	Val	Arg				
				165					170					175					
Leu	Gly	Lys	Asp	Gly	Gly	Leu	Asp	Phe	Asn	Lys	Lys	Gly	Asp	Leu	Val				
			180					185					190						
Ala	Trp	Asn	Arg	Tyr	Asp	Asp	Arg	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp				
		195					200					205							
Pro	Ser	Pro	Asn	Cys	Lys	Val	Ser	Glu	Ala	Lys	Asp	Ser	Lys	Leu	Thr				
	210					215					220								
Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Ser	Val	Ala	Leu				
225					230					235					240				
Leu	Ile	Val	Lys	Gly	Lys	Tyr	Gln	Thr	Ile	Ser	Glu	Ser	Thr	Ile	Pro				
			245						250					255					
Lys	Asp	Gln	Arg	Asn	Phe	Ser	Val	Lys	Leu	Met	Phe	Asp	Glu	Lys	Gly				
			260					265					270						
Lys	Leu	Leu	Asp	Lys	Ser	Ser	Leu	Asp	Lys	Glu	Tyr	Trp	Asn	Phe	Arg				
	275						280					285							
Ser	Asn	Asp	Ser	Val	Val	Gly	Thr	Ala	Tyr	Asp	Asn	Ala	Val	Pro	Phe				
	290					295					300								
Met	Pro	Asn	Leu	Lys	Ala	Tyr	Pro	Lys	Asn	Thr	Thr	Thr	Ser	Ser	Thr				
305					310					315					320				
Asn	Pro	Asp	Asp	Lys	Ile	Ser	Ala	Gly	Lys	Lys	Asn	Ile	Val	Ser	Asn				
				325					330					335					

Val Tyr Leu Glu Gly Arg Val Tyr Gln Pro Val Ala Leu Thr Val Lys  
340 345 350

Phe Asn Ser Glu Asn Asp Cys Ala Tyr Ser Ile Thr Phe Asp Phe Val  
355 360 365

Trp Ser Lys Thr Tyr Glu Ser Pro Val Ala Phe Asp Ser Ser Ser Phe  
370 375 380

Thr Phe Ser Tyr Ile Ala Gln Glu  
385 390

<210> 47

<211> 380

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(380)

<223> Serotype 37 fiber protein

<400> 47

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Thr Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Leu Gln Asp Gly Ser Leu Thr Val Asn Pro Lys  
85 90 95

Ala Pro Leu Gln Val Asn Thr Asp Lys Lys Leu Glu Leu Ala Tyr Asp  
100 105 110

Asn Pro Phe Glu Ser Ser Ala Asn Lys Leu Ser Leu Lys Val Gly His  
115 120 125

Gly Leu Lys Val Leu Asp Glu Lys Ser Ala Ala Gly Leu Lys Asp Leu  
130 135 140

Ile Gly Lys Leu Val Val Leu Thr Gly Lys Gly Ile Gly Thr Glu Asn  
145 150 155 160

Leu Glu Asn Thr Asp Gly Ser Ser Arg Gly Ile Gly Ile Asn Val Arg  
165 170 175

Ala Arg Glu Gly Leu Thr Phe Asp Asn Asp Gly Tyr Leu Val Ala Trp  
180 185 190

Asn Pro Lys Tyr Asp Leu Arg Thr Leu Trp Thr Thr Pro Asp Thr Ser  
195 200 205

Pro Asn Cys Thr Ile Ala Gln Asp Lys Asp Ser Lys Leu Thr Leu Val  
210 215 220

Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Asn Val Ser Leu Ile Val  
225 230 235 240

Val Ala Gly Lys Tyr His Ile Ile Asn Asn Lys Thr Asn Pro Lys Ile  
245 250 255

Lys Ser Phe Thr Ile Lys Leu Leu Phe Asn Lys Asn Gly Val Leu Leu  
260 265 270

Asp Asn Ser Asn Leu Gly Lys Ala Tyr Trp Asn Phe Arg Ser Gly Asn  
275 280 285

Ser Asn Val Ser Thr Ala Tyr Glu Lys Ala Ile Gly Phe Met Pro Asn  
290 295 300

Leu Val Ala Val Ser Lys Pro Ser Asn Ser Lys Lys Tyr Ala Arg Asp  
305 310 315 320

Ile Val Tyr Gly Asn Ile Tyr Leu Gly Gly Lys Pro Asp Gln Pro Gly  
325 330 335

Val Ile Lys Thr Thr Phe Asn Gln Glu Thr Gly Cys Glu Tyr Ser Ile  
340 345 350

Thr Phe Asn Phe Ser Trp Ser Lys Thr Tyr Glu Asn Val Glu Phe Glu  
355 360 365

Thr Thr Ser Phe Thr Phe Ser Tyr Ile Ala Gln Glu  
370 375 380

<210> 48  
<211> 391  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(391)  
<223> Serotype 39 fiber protein

<220>  
<221> MISC\_FEATURE  
<222> (43)..(43)  
<223> 'Xaa' at position 43 indicates an unidentified amino acid due to  
unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (49)..(49)  
<223> 'Xaa' at position 49 indicates an unidentified amino acid due to  
unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (97)..(97)  
<223> 'Xaa' at position 97 indicates an unidentified amino acid due to  
unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (192)..(192)  
<223> 'Xaa' at position 192 indicates an unidentified amino acid due to  
unidentified nucleotide(s)

<400> 48

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15



Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Xaa Thr Pro Pro Phe Val  
35 40 45

Xaa Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Thr Ile Ala Asn Gly Asn Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Leu Glu Gln Asp Ser Gly Lys Leu Ile Val Asn  
85 90 95

Xaa Lys Ala Pro Leu Gln Val Ala Asn Asp Lys Leu Glu Leu Ser Tyr  
100 105 110

Ala Asp Pro Phe Glu Thr Ser Ala Asn Lys Leu Ser Leu Lys Val Gly  
115 120 125

His Gly Leu Lys Val Leu Asp Glu Lys Asn Ala Gly Gly Leu Lys Asp  
130 135 140

Leu Ile Gly Thr Leu Val Val Leu Thr Gly Lys Gly Ile Gly Val Glu  
145 150 155 160

Glu Leu Lys Asn Ala Asp Asn Thr Asn Arg Gly Val Gly Ile Asn Val  
165 170 175

Arg Leu Gly Lys Asp Gly Gly Leu Ser Phe Asp Lys Lys Gly Asp Xaa  
180 185 190

Val Ala Trp Asn Lys His Asp Asp Arg Arg Thr Leu Trp Thr Thr Pro  
195 200 205

Asp Pro Ser Pro Asn Cys Thr Ile Asp Glu Glu Arg Asp Ser Lys Leu  
210 215 220

Thr Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Asn Val Ser  
225 230 235 240

Leu Leu Val Val Lys Gly Lys Phe Ser Asn Ile Asn Asn Asn Thr Asn  
245 250 255

Pro Thr Asp Lys Lys Ile Thr Val Lys Leu Leu Phe Asn Glu Lys Gly  
260 265 270

Val Leu Met Asp Ser Ser Ser Leu Lys Lys Glu Tyr Trp Asn Tyr Arg  
275 280 285

Asn Asp Asn Ser Thr Val Ser Gln Ala Tyr Asp Asn Ala Val Pro Phe  
290 295 300

Met Pro Asn Ile Lys Ala Tyr Pro Lys Pro Thr Thr Asp Thr Ser Ala  
305 310 315 320

Lys Pro Glu Asp Lys Lys Ser Ala Ala Lys Arg Tyr Ile Val Ser Asn  
325 330 335

Val Tyr Ile Gly Gly Leu Pro Asp Lys Thr Val Val Ile Thr Ile Lys  
340 345 350

Leu Asn Ala Glu Thr Glu Ser Ala Tyr Ser Met Thr Phe Glu Phe Thr  
355 360 365

Trp Ala Lys Thr Phe Glu Asn Leu Gln Phe Asp Ser Ser Ser Phe Thr  
370 375 380

Phe Ser Tyr Ile Ala Gln Glu  
385 390

<210> 49

<211> 339

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(339)

<223> Serotype 39 fiber protein

<400> 49

Ile Arg Ile Ser Pro Ser Ser Leu Pro Pro Leu Ser Pro Pro Met Asp  
1 5 10 15

Ser Lys Thr Ser Pro Leu Gly Cys Tyr His Ser Asn Trp Leu Thr Gln  
20 25 30

Ser Pro Ser Pro Met Gly Met Ser His Ser Arg Trp Glu Gly Gly Ser  
35 40 45

Pro Trp Gln Glu Gly Thr Gly Asp Leu Lys Val Asn Ala Lys Ser Pro  
50 55 60

Leu Gln Val Ala Thr Asn Lys Gln Leu Glu Ile Ala Leu Ala Lys Pro  
65 70 75 80

Phe Glu Glu Lys Asp Gly Lys Leu Ala Leu Lys Ile Gly His Gly Leu  
85 90 95

Ala Val Val Asp Glu Asn His Thr His Leu Gln Ser Leu Ile Gly Thr  
100 105 110

Leu Val Ile Leu Thr Gly Lys Gly Ile Gly Thr Gly Arg Ala Glu Ser  
115 120 125

Gly Gly Thr Ile Asp Val Arg Leu Gly Ser Gly Gly Gly Leu Ser Phe  
130 135 140

Asp Lys Asp Gly Asn Leu Val Ala Trp Asn Lys Asp Asp Asp Arg Arg  
145 150 155 160

Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro Asn Cys Lys Ile Asp Gln  
165 170 175

Asp Lys Asp Ser Lys Leu Thr Phe Val Leu Thr Lys Cys Gly Ser Gln  
180 185 190

Ile Leu Ala Asn Met Ser Leu Leu Val Val Lys Gly Lys Phe Ser Met  
195 200 205

Ile Asn Asn Lys Val Asn Gly Thr Asp Asp Tyr Lys Lys Phe Thr Ile  
210 215 220

Lys Leu Leu Phe Asp Glu Lys Gly Val Leu Leu Lys Asp Ser Ser Leu  
225 230 235 240

Asp Lys Glu Tyr Trp Asn Tyr Arg Ser Asn Asn Asn Asn Val Gly Ser



Ser Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asn Pro Ile Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Leu Gln Asp Gly Thr Gly Lys Leu Thr Ile Asp  
85 90 95

Thr Lys Thr Pro Leu Gln Val Ala Asn Asn Lys Leu Glu Leu Ala Phe  
100 105 110

Asp Ala Pro Leu Tyr Glu Lys Asn Gly Lys Leu Ala Leu Lys Thr Gly  
115 120 125

His Gly Leu Ala Val Leu Thr Lys Asp Ile Gly Ile Pro Glu Leu Ile  
130 135 140

Gly Ser Leu Val Ile Leu Thr Gly Lys Gly Ile Gly Thr Gly Thr Val  
145 150 155 160

Ala Gly Gly Gly Thr Ile Asp Val Arg Leu Gly Asp Asp Gly Gly Leu  
165 170 175

Ser Phe Asp Lys Lys Gly Asp Leu Val Ala Trp Asn Lys Lys Asn Asp  
180 185 190

Arg Arg Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro Asn Cys Arg Val  
195 200 205

Ser Glu Asp Lys Asp Ser Lys Leu Thr Leu Ile Leu Thr Lys Cys Gly  
210 215 220

Ser Gln Ile Leu Ala Ser Phe Ser Leu Leu Val Val Xaa Gly Thr Tyr  
225 230 235 240

Thr Thr Val Asp Lys Asn Thr Thr Asn Lys Gln Phe Ser Ile Lys Leu  
245 250 255

Leu Phe Asp Ala Asn Gly Lys Leu Lys Ser Glu Ser Asn Leu Ser Gly  
260 265 270

Tyr Trp Asn Tyr Arg Ser Asp Asn Ser Val Val Ser Thr Pro Tyr Asp  
275 280 285

Asn Ala Val Pro Phe Met Pro Asn Thr Thr Ala Tyr Pro Lys Ile Ile  
290 295 300

Asn Ser Thr Thr Asp Pro Glu Asn Lys Lys Ser Ser Ala Lys Lys Thr  
305 310 315 320

Ile Val Gly Asn Val Tyr Leu Glu Gly Asn Ala Gly Gln Pro Val Ala  
325 330 335

Val Ala Ile Ser Phe Asn Lys Glu Thr Thr Ala Asp Tyr Ser Ile Thr  
340 345 350

Phe Asp Phe Ala Trp Ser Lys Ala Tyr Glu Thr Pro Val Pro Phe Asp  
355 360 365

Thr Ser Ser Met Thr Phe Ser Tyr Ile Ala Gln Glu  
370 375 380

<210> 51  
<211> 328  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(328)  
<223> Serotype 43 fiber protein

<220>  
<221> MISC\_FEATURE  
<222> (4)..(4)  
<223> 'Xaa' at position 4 indicates an unidentified amino acid due to unidentified nucleotide(s)

<220>  
<221> MISC\_FEATURE  
<222> (232)..(233)  
<223> 'Xaa' at positions 232 and 233 indicate an unidentified amino acid due to unidentified nucleotide(s)

<400> 51

Asn Ile Pro Xaa Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Lys

1		5		10		15											
Asn	Phe	Pro	Pro	Gly	Val	Leu	Ser	Leu	Lys	Leu	Ala	Asp	Pro	Ile	Thr		
		20						25					30				
Ile	Thr	Asn	Gly	Asp	Val	Ser	Leu	Lys	Val	Gly	Gly	Gly	Leu	Thr	Val		
		35					40					45					
Glu	Lys	Glu	Ser	Gly	Asn	Leu	Thr	Val	Asn	Pro	Lys	Ala	Pro	Leu	Gln		
	50					55					60						
Val	Ala	Lys	Gly	Gln	Leu	Glu	Leu	Ala	Tyr	Asp	Ser	Pro	Phe	Asp	Val		
65					70					75					80		
Lys	Asn	Asn	Met	Leu	Thr	Leu	Lys	Ala	Gly	His	Gly	Leu	Ala	Val	Val		
				85					90					95			
Thr	Lys	Asp	Asn	Thr	Asp	Leu	Gln	Pro	Leu	Met	Gly	Thr	Leu	Val	Val		
			100					105						110			
Leu	Thr	Gly	Lys	Gly	Ile	Gly	Thr	Gly	Thr	Ser	Ala	His	Gly	Gly	Thr		
		115					120					125					
Ile	Asp	Val	Arg	Ile	Gly	Lys	Asn	Gly	Ser	Leu	Ala	Phe	Asp	Lys	Asp		
	130					135					140						
Gly	Asp	Leu	Val	Ala	Trp	Asp	Lys	Glu	Asn	Asp	Arg	Arg	Thr	Leu	Trp		
145					150					155					160		
Thr	Thr	Pro	Asp	Thr	Ser	Pro	Asn	Cys	Lys	Met	Ser	Glu	Ala	Lys	Asp		
				165					170					175			
Ser	Lys	Leu	Thr	Leu	Ile	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Gly		
			180					185					190				
Ser	Val	Ser	Leu	Leu	Ala	Val	Lys	Gly	Glu	Tyr	Gln	Asn	Met	Thr	Ala		
		195					200					205					
Asn	Thr	Lys	Lys	Asn	Val	Lys	Ile	Thr	Leu	Leu	Phe	Asp	Ala	Asn	Gly		
	210					215					220						
Val	Leu	Leu	Ala	Gly	Ser	Ser	Xaa	Xaa	Lys	Glu	Tyr	Trp	Asn	Phe	Arg		
225					230					235					240		

Ser Asn Asp Ser Thr Val Ser Gly Asn Tyr Glu Asn Ala Val Gln Phe  
245 250 255

Met Pro Asn Ile Thr Ala Tyr Lys Pro Thr Asn Ser Lys Ser Tyr Ala  
260 265 270

Arg Ser Val Ile Phe Gly Asn Val Tyr Ile Asp Ala Lys Pro Tyr Asn  
275 280 285

Pro Val Val Ile Lys Ile Ser Phe Asn Gln Glu Thr Gln Asn Asn Cys  
290 295 300

Val Tyr Ser Ile Ser Phe Asp Tyr Thr Leu Ser Lys Asp Tyr Pro Asn  
305 310 315 320

Met Gln Phe Asp Val Thr Leu Ser  
325

<210> 52  
<211> 341  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(341)  
<223> Serotype 44 fiber protein

<400> 52

Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Gln  
1 5 10 15

Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile Thr  
20 25 30

Ile Thr Asn Gly Asn Val Ser Leu Lys Val Gly Gly Gly Leu Thr Leu  
35 40 45

Gln Glu Gly Thr Gly Asp Leu Lys Val Asn Ala Lys Ser Pro Leu Gln  
50 55 60

Val Ala Thr Asn Lys Gln Leu Glu Ile Ala Leu Ala Lys Pro Phe Glu  
65 70 75 80



Glu Lys Asp Gly Lys Leu Ala Leu Lys Ile Gly His Gly Leu Ala Val  
85 90 95

Val Asp Glu Asn His Thr His Leu Gln Ser Leu Ile Gly Thr Leu Val  
100 105 110

Ile Leu Thr Gly Lys Gly Ile Gly Thr Gly Ser Ala Glu Ser Gly Gly  
115 120 125

Thr Ile Asp Val Arg Leu Gly Ser Gly Gly Gly Leu Ser Phe Asp Lys  
130 135 140

Asp Gly Asn Leu Val Ala Trp Asn Lys Asp Asp Asp Arg Arg Thr Leu  
145 150 155 160

Trp Thr Thr Pro Asp Pro Ser Pro Asn Cys Lys Ile Asp Gln Asp Lys  
165 170 175

Asp Ser Lys Leu Thr Phe Val Leu Thr Lys Cys Gly Ser Gln Ile Leu  
180 185 190

Ala Asn Met Ser Leu Leu Val Val Lys Gly Lys Phe Ser Met Ile Asn  
195 200 205

Asn Lys Val Asn Gly Thr Asp Asp Tyr Lys Lys Phe Thr Ile Lys Leu  
210 215 220

Leu Phe Asp Glu Lys Gly Val Leu Leu Lys Asp Ser Ser Leu Asp Lys  
225 230 235 240

Glu Tyr Trp Asn Tyr Arg Ser Asn Asn Asn Asn Val Gly Ser Ala Tyr  
245 250 255

Glu Glu Ala Val Gly Phe Met Pro Ser Thr Thr Ala Tyr Pro Lys Pro  
260 265 270

Pro Thr Pro Pro Thr Asn Pro Thr Thr Pro Leu Glu Lys Ser Gln Ala  
275 280 285

Lys Asn Lys Tyr Val Ser Asn Val Tyr Leu Gly Gly Gln Ala Gly Asn  
290 295 300

Pro Val Ala Thr Thr Val Ser Phe Asn Lys Glu Thr Gly Cys Thr Tyr  
305 310 315 320

Ser Ile Thr Phe Asp Phe Ala Trp Asn Lys Thr Tyr Glu Asn Val Gln  
325 330 335

Phe Asp Ser Ser Phe  
340

<210> 53  
<211> 345  
<212> PRT  
<213> adenoviridae  
  
<220>  
<221> VARIANT  
<222> (1)..(345)  
<223> Serotype 45 fiber protein

<400> 53

Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Gln  
1 5 10 15

Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile Ala  
20 25 30

Ile Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Thr Val  
35 40 45

Glu Lys Asp Ser Gly Asn Leu Lys Val Asn Pro Lys Ala Pro Leu Gln  
50 55 60

Val Thr Thr Asp Lys Gln Leu Glu Ile Ala Leu Ala Tyr Pro Phe Glu  
65 70 75 80

Val Ser Asn Gly Lys Leu Gly Ile Lys Ala Gly His Gly Leu Lys Val  
85 90 95

Ile Asp Lys Ile Ala Gly Leu Glu Gly Leu Ala Gly Thr Leu Val Val  
100 105 110

Leu Thr Gly Lys Gly Ile Gly Thr Glu Asn Leu Glu Asn Ser Asp Gly  
115 120 125

Ser Ser Arg Gly Val Gly Ile Asn Val Arg Leu Ala Lys Asp Gly Val  
130 135 140

Leu Ala Phe Asp Lys Lys Gly Asp Leu Val Ala Trp Asn Lys His Asp  
145 150 155 160

Asp Arg Arg Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro Asn Cys Thr  
165 170 175

Ile Asp Gln Glu Arg Asp Ser Lys Leu Thr Leu Val Leu Thr Lys Cys  
180 185 190

Gly Ser Gln Ile Leu Ala Asn Val Ser Leu Leu Val Val Lys Gly Lys  
195 200 205

Phe Ser Asn Ile Asn Asn Asn Ala Asn Pro Thr Asp Lys Lys Ile Thr  
210 215 220

Val Lys Leu Leu Phe Asn Glu Lys Gly Val Leu Met Asp Ser Ser Thr  
225 230 235 240

Leu Lys Lys Glu Tyr Trp Asn Tyr Arg Asn Asp Asn Ser Thr Val Ser  
245 250 255

Gln Ala Tyr Asp Asn Ala Val Pro Phe Met Pro Asn Ile Lys Ala Tyr  
260 265 270

Pro Lys Pro Ser Thr Asp Thr Ser Ala Lys Pro Glu Asp Lys Lys Ser  
275 280 285

Ala Ala Lys Arg Tyr Ile Val Ser Asn Val Tyr Ile Gly Gly Leu Pro  
290 295 300

Asp Lys Thr Val Val Ile Thr Ile Lys Phe Asn Ala Glu Thr Glu Cys  
305 310 315 320

Ala Tyr Ser Ile Thr Phe Glu Phe Thr Trp Ala Lys Thr Phe Glu Asp  
325 330 335

Val Gln Cys Asp Ser Ser Ser Phe Thr  
340 345

<210> 54  
 <211> 340  
 <212> PRT  
 <213> adenoviridae  
  
 <220>  
 <221> VARIANT  
 <222> (1)..(340)  
 <223> Serotype 46 fiber protein

<400> 54

Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Lys  
 1 5 10 15

Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile Ala  
 20 25 30

Ile Val Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Thr Leu  
 35 40 45

Gln Glu Gly Asn Leu Thr Val Asp Ala Lys Ala Pro Leu Gln Val Ala  
 50 55 60

Asn Asp Asn Lys Leu Glu Leu Ser Tyr Ala Asp Pro Phe Glu Val Lys  
 65 70 75 80

Asp Thr Lys Leu Gln Leu Lys Val Gly His Gly Leu Lys Val Ile Asp  
 85 90 95

Glu Lys Thr Ser Ser Gly Leu Gln Ser Leu Ile Gly Asn Leu Val Val  
 100 105 110

Leu Thr Gly Lys Gly Ile Gly Thr Gln Glu Leu Lys Asp Lys Asp Asp  
 115 120 125

Glu Thr Lys Asn Ile Gly Val Gly Ile Asn Val Arg Ile Gly Lys Asn  
 130 135 140

Glu Ser Leu Ala Phe Asp Lys Asp Gly Asn Leu Val Ala Trp Asp Asn  
 145 150 155 160

Glu Asn Asp Arg Arg Thr Leu Trp Thr Thr Pro Asp Thr Ser Ser Lys  
 165 170 175

Phe Val Lys Ile Ser Thr Glu Lys Asp Ser Lys Leu Thr Leu Val Leu  
180 185 190

Thr Lys Cys Gly Ser Gln Ile Leu Ala Ser Val Ser Leu Leu Ala Val  
195 200 205

Ala Gly Ser Tyr Leu Asn Met Thr Ala Ser Thr Gln Lys Ser Ile Lys  
210 215 220

Val Ser Leu Met Phe Asp Ser Lys Gly Leu Leu Met Thr Thr Ser Ser  
225 230 235 240

Ile Asp Lys Gly Tyr Trp Asn Tyr Arg Asn Lys Asn Ser Val Val Gly  
245 250 255

Thr Ala Tyr Glu Asn Ala Ile Pro Phe Met Pro Asn Leu Val Ala Tyr  
260 265 270

Pro Arg Pro Asn Thr Pro Asp Ser Lys Ile Tyr Ala Arg Ser Lys Ile  
275 280 285

Val Gly Asn Val Tyr Leu Ala Gly Leu Ala Tyr Gln Pro Ile Val Ile  
290 295 300

Thr Val Ser Phe Asn Gln Glu Lys Asp Ala Ser Cys Ala Tyr Ser Ile  
305 310 315 320

Thr Phe Glu Phe Ala Trp Asn Lys Asp Tyr Val Gly Gln Phe Asp Thr  
325 330 335

Thr Ser Phe Thr  
340

<210> 55

<211> 389

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(389)

<223> Serotype 47 fiber protein

<400> 55

Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met Lys Arg  
1 5 10 15

Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr Gly Tyr  
20 25 30

Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser  
35 40 45

Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala  
50 55 60

Asp Pro Ile Thr Ile Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly  
65 70 75 80

Gly Leu Thr Leu Gln Glu Gly Thr Gly Asn Leu Thr Val Asn Ala Lys  
85 90 95

Ala Pro Leu Gln Val Ala Asp Asp Lys Lys Leu Glu Leu Ser Tyr Asp  
100 105 110

Asn Pro Phe Glu Val Ser Ala Asn Lys Leu Ser Leu Lys Val Gly His  
115 120 125

Gly Leu Lys Val Leu Asp Glu Lys Asn Ser Gly Gly Leu Gln Glu Leu  
130 135 140

Ile Gly Lys Leu Val Ile Leu Thr Gly Lys Gly Ile Gly Val Glu Glu  
145 150 155 160

Leu Lys Asn Ala Asp Asn Thr Asn Arg Gly Val Gly Ile Asn Val Arg  
165 170 175

Leu Gly Lys Asp Gly Gly Leu Ser Phe Asp Lys Lys Gly Glu Leu Val  
180 185 190

Ala Trp Asn Lys His Asn Asp Thr Arg Thr Leu Trp Thr Thr Pro Asp  
195 200 205

Pro Ser Pro Asn Cys Lys Ile Glu Gln Asp Lys Asp Ser Lys Leu Thr  
210 215 220

Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Thr Met Ala Phe

225 230 235 240

Gln Val Val Lys Gly Thr Tyr Glu Asn Ile Ser Lys Asn Thr Ala Lys  
245 250 255

Lys Ser Phe Ser Ile Lys Leu Leu Phe Asp Asp Asn Gly Lys Leu Leu  
260 265 270

Glu Gly Ser Ser Leu Asp Lys Asp Tyr Trp Asn Phe Arg Asn Asp Asp  
275 280 285

Ser Ile Met Pro Asn Gln Tyr Asp Asn Ala Val Pro Phe Met Pro Asn  
290 295 300

Leu Lys Ala Tyr Pro Asn Pro Lys Thr Ser Thr Val Leu Pro Ser Thr  
305 310 315 320

Asp Lys Lys Ser Asn Gly Lys Asn Thr Ile Val Ser Asn Leu Tyr Leu  
325 330 335

Glu Gly Lys Ala Tyr Gln Pro Val Ala Val Thr Ile Thr Phe Asn Lys  
340 345 350

Glu Thr Gly Cys Thr Tyr Ser Ile Thr Phe Glu Phe Gly Trp Ala Lys  
355 360 365

Thr Tyr Asp Val Pro Ile Pro Phe Asp Ser Ser Ser Phe Thr Phe Ser  
370 375 380

Tyr Ile Ala Gln Glu  
385

<210> 56  
<211> 343  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(343)  
<223> Serotype 48 fiber protein

<400> 56

Ser Asp Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe

1	5	10	15
Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile	20	25	30
Thr Ile Thr Asn Gly Asn Val Ser Leu Lys Val Gly Gly Gly Leu Thr	35	40	45
Leu Gln Glu Gly Thr Gly Asp Leu Lys Val Asn Ala Lys Ser Pro Leu	50	55	60
Gln Val Ala Thr Asn Lys Gln Leu Glu Ile Ala Leu Ala Lys Pro Phe	65	70	75
Glu Glu Lys Asp Gly Lys Leu Ala Leu Lys Ile Gly His Glu Leu Ala	85	90	95
Val Val Asp Glu Asn Leu Thr His Leu Gln Ser Leu Ile Gly Thr Leu	100	105	110
Val Ile Leu Thr Gly Lys Gly Ile Gly Thr Gly Arg Ala Glu Ser Gly	115	120	125
Gly Thr Ile Asp Val Arg Leu Gly Ser Gly Gly Gly Leu Ser Phe Asp	130	135	140
Lys Asp Gly Asn Leu Val Ala Trp Asn Lys Asp Asp Asp Arg Arg Thr	145	150	155
Leu Trp Thr Thr Pro Asp Pro Ser Pro Asn Cys Lys Ile Asp Gln Asp	165	170	175
Lys Asp Ser Lys Leu Thr Phe Val Leu Thr Lys Cys Gly Ser Gln Ile	180	185	190
Leu Ala Asn Met Ser Leu Leu Val Val Lys Gly Lys Phe Ser Met Ile	195	200	205
Asn Asn Lys Val Asn Gly Thr Asp Asp Tyr Lys Lys Phe Thr Ile Lys	210	215	220
Leu Leu Phe Asp Glu Lys Gly Val Leu Leu Lys Asp Ser Ser Leu Asp	225	230	235
			240



Lys Glu Tyr Trp Asn Tyr Arg Ser Asn Asn Asn Asn Val Gly Ser Ala  
245 250 255

Tyr Glu Glu Ala Val Gly Phe Met Pro Ser Thr Thr Ala Tyr Pro Lys  
260 265 270

Pro Pro Thr Pro Pro Thr Asn Pro Thr Thr Pro Leu Glu Lys Ser Gln  
275 280 285

Ala Lys Asn Lys Tyr Val Ser Asn Val Tyr Leu Gly Gly Gln Ala Gly  
290 295 300

Asn Pro Val Ala Thr Thr Val Ser Phe Asn Lys Glu Thr Gly Cys Thr  
305 310 315 320

Tyr Ser Ile Thr Phe Asp Phe Ala Trp Asn Lys Thr Tyr Lys Met Ala  
325 330 335

Phe Ile Pro Arg Phe Asn Phe  
340

<210> 57  
<211> 394  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(394)  
<223> Serotype 49 fiber protein

<220>  
<221> MISC\_FEATURE  
<222> (262)..(262)  
<223> 'Xaa' at position 262 indicates an unidentified amino acid due to  
unidentified nucleotide(s)

<400> 57

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Ala Ile Thr Asn Gly Asn Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Val Glu Gln Asp Ser Gly Asn Leu Lys Val Asn  
85 90 95

Pro Lys Ala Pro Leu Gln Val Ala Thr Asp Asn Gln Leu Glu Ile Ser  
100 105 110

Leu Ala Asp Pro Phe Glu Val Lys Asn Lys Lys Leu Ser Leu Lys Val  
115 120 125

Gly His Gly Leu Lys Val Ile Asp Glu Asn Ile Ser Thr Leu Gln Gly  
130 135 140

Leu Leu Gly Asn Leu Val Val Leu Thr Gly Met Gly Ile Gly Thr Glu  
145 150 155 160

Glu Leu Lys Lys Asp Asp Lys Ile Val Gly Ser Ala Val Asn Val Arg  
165 170 175

Leu Gly Gln Asp Gly Gly Leu Thr Phe Asp Lys Lys Gly Asp Leu Val  
180 185 190

Ala Trp Asn Lys Glu Asn Asp Arg Arg Thr Leu Trp Thr Thr Pro Asp  
195 200 205

Pro Ser Pro Asn Cys Lys Val Ser Glu Glu Lys Asp Ser Lys Leu Thr  
210 215 220

Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Ser Val Ser Leu  
225 230 235 240

Leu Val Val Lys Gly Lys Phe Ala Asn Ile Asn Asn Lys Thr Asn Pro  
245 250 255

Gly Glu Asp Tyr Lys Xaa Phe Ser Val Lys Leu Leu Phe Asp Ala Asn  
260 265 270

Gly Lys Leu Leu Thr Gly Ser Ser Leu Asp Gly Asn Tyr Trp Asn Tyr  
275 280 285

Lys Asn Lys Asp Ser Val Ile Gly Ser Pro Tyr Glu Asn Ala Val Pro  
290 295 300

Phe Met Pro Asn Ser Thr Ala Tyr Pro Lys Ile Ile Asn Asn Gly Thr  
305 310 315 320

Ala Asn Pro Glu Asp Lys Lys Ser Ala Ala Lys Lys Thr Ile Val Thr  
325 330 335

Asn Val Tyr Leu Gly Gly Asp Ala Ala Lys Pro Val Ala Thr Thr Ile  
340 345 350

Ser Phe Asn Lys Glu Thr Glu Ser Asn Cys Val Tyr Ser Ile Thr Phe  
355 360 365

Asp Phe Ala Trp Asn Lys Thr Tyr Lys Asn Val Pro Phe Asp Ser Ser  
370 375 380

Ser Leu Thr Phe Ser Tyr Ile Ala Gln Glu  
385 390

<210> 58

<211> 353

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(353)

<223> Serotype 51 fiber protein

<400> 58

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Glu Asp Glu Ser Thr Ser Gln His Pro Phe Ile Asn Pro Gly Phe Ile  
35 40 45

Ser Pro Asn Gly Phe Thr Gln Ser Pro Asp Gly Val Leu Thr Leu Asn  
50 55 60

Cys Leu Thr Pro Leu Thr Thr Thr Gly Gly Pro Leu Gln Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Ile Val Asp Asp Thr Asp Gly Thr Leu Gln Glu Asn  
85 90 95

Ile Arg Val Thr Ala Pro Ile Thr Lys Asn Asn His Ser Val Glu Leu  
100 105 110

Ser Ile Gly Asn Gly Leu Glu Thr Gln Asn Asn Lys Leu Cys Ala Lys  
115 120 125

Leu Gly Asn Gly Leu Lys Phe Asn Asn Gly Asp Ile Cys Ile Lys Asp  
130 135 140

Ser Ile Asn Thr Leu Trp Thr Gly Ile Lys Pro Pro Pro Asn Cys Gln  
145 150 155 160

Ile Val Glu Asn Thr Asp Thr Asn Asp Gly Lys Leu Thr Leu Val Leu  
165 170 175

Val Lys Asn Gly Gly Leu Val Asn Gly Tyr Val Ser Leu Val Gly Val  
180 185 190

Ser Asp Thr Val Asn Gln Met Phe Thr Gln Lys Ser Ala Thr Ile Gln  
195 200 205

Leu Arg Leu Tyr Phe Asp Ser Ser Gly Asn Leu Leu Thr Asp Glu Ser  
210 215 220

Asn Leu Lys Ile Pro Leu Lys Asn Lys Ser Ser Thr Ala Thr Ser Glu  
225 230 235 240

Ala Ala Thr Ser Ser Lys Ala Phe Met Pro Ser Thr Thr Ala Tyr Pro  
245 250 255

Phe Asn Thr Thr Thr Arg Asp Ser Glu Asn Tyr Ile His Gly Ile Cys

260

265

270

Tyr Tyr Met Thr Ser Tyr Asp Arg Ser Leu Val Pro Leu Asn Ile Ser  
275 280 285

Ile Met Leu Asn Ser Arg Thr Ile Ser Ser Asn Val Ala Tyr Ala Ile  
290 295 300

Gln Phe Glu Trp Asn Leu Asn Ala Lys Glu Ser Pro Glu Ser Asn Ile  
305 310 315 320

Ala Thr Leu Thr Thr Ser Pro Phe Phe Phe Ser Tyr Ile Ile Glu Asp  
325 330 335

Thr Thr Lys Cys Ile Ser Leu Cys Tyr Val Ser Thr Cys Leu Phe Phe  
340 345 350

Asn